

Water Security Summit '13

- Water System Security and Emergency Management Committee
- Eagle Eye Conference Center: Tuesday 6/4/13
- Bob Babcock, Water Sector Security and Emergency Management Chief
- MDEQ Office of Drinking Water and Municipal Assistance; MDNR: Michigan Department of Natural Resources - Law Enforcement Division
- Communications, Emergency Management and Homeland Security Section
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Michigan Water Utility Security Seminar

8:00 a.m. - Registration

Morning Moderator:
Barbara Marczak, Preim & Newhof

8:30 – 8:45 a.m. – Introduction

Bill Maier and Bob Babcock, Co-Chairs,
Water System Security and Emergency
Management Committee

8:45 – 9:00 a.m. - Water Sector Tabletop

Exercises: News from the Field
Bob Babcock, MDNR/MDEQ Water Sector
Security Chief

9:00 – 9:45 a.m. Superstorm Sandy: The Water System Impact

Kim Linton, Senior Account Manager, Water
Research Foundation, Denver, CO

9:45 – 10:15 a.m. The Big LEAP:

Developing Local Energy Assurance Plans
Mike Kenel, Homeland Security Specialist,
Critical Infrastructure Protection and
Emergency Planning, Michigan Public Service
Commission

10:15 - 10:30 a.m. – Networking break

10:30 – 11:00 a.m. – The Incident Command System (ICS) Primer

Tom Noble, Associate Principal
Horsley-Witten Group, Inc.

11:00 – 11:30 a.m. Risk Management Plans...If You Use Gas Chlorine, You Need to Hear This

Monika Chrzazcz, Environmental Engineer,
U.S. EPA, Region 5 Chicago, IL

11:30 am – 12 noon: Morning Speaker Panel Q&A Session

12:00 Noon – Planned Luncheon

Afternoon Moderator:
Bill Maier, Lansing Board of Water and Light

1:00 – 1:30 p.m. - Gaseous Chlorine: The Process Safety Management (PSM)

Standard for Water Sector Facilities
Gerry Dike, MIOSHA Statewide Disaster
Response Administrator/IH Specialist,
Michigan Occupational Safety & Health
Administration, General Industry Safety and
Health Division

1:30 – 2:00 p.m. - WaterISAC: Information Makes You Stronger

Eric Meyers, Lead Analyst
WaterISAC, Washington, D.C.

2:00 – 2:30 p.m. – Here's Looking At YOU: Cyber Security Trends for Control Systems

Lisa Kaiser, ICS-CERT, National Protection
and Programs Directorate, U.S. Department of
Homeland Security (WEBEX)

2:30 – 2:45 p.m. – Networking break

2:45 – 3:15 p.m. - Drinking Water System Security Standards: What Is Due Diligence?

Clyde Dugan, Superintendent, East Lansing –
Meridian Water System

3:15 – 4:00 p.m. - Afternoon Speaker Panel Q&A Session

4:00 p.m. - Adjourn

DEQ/DNR

- Water Sector Security
Tabletop Exercises
- News from the Field

Thank You MI Section

- Thanks to the MI Section of the American Water Works Association:
 - Without you, we wouldn't be here today
 - Thanks to Eric, Dave, and all of the Section for all of your outstanding efforts

US Environmental Protection Agency

Thank You

- Thank you US EPA for funding the TTX's
- Without the Bioterrorism Act funding for the counterterrorism grant, we would not be doing the TTX's

WSS '13: Water Sector Tabletop Exercises News from the Field

- 1. general Tabletop
Exercise description
- 2. comments from the
actual exercises

4,000 years ago...book of Genesis

- Senior Israeli Water System engineer...in the book of Genesis: do not allow your enemy to poison your well

It's Nothing New

“It has long been recognized that among the public utilities, water supply facilities offer a particularly vulnerable point of attack to the foreign agent, due to the strategic position they occupy in keeping the wheels of industry turning and in preserving the health and morale of the American Populace.”

J. Edgar Hoover. 1941

Intent

The intent of the exercise is for your community to increase its understanding of the importance and the impact of the public drinking water system on the entire community and to support planning and capitalization of improvement projects for that system to improve their resilience to all hazards.

Planning and Preparedness



Water Security Exercise Program

- EPA Counterterrorism Grant
- 100 exercises this year
 - 75 Water Systems
 - 25 Wastewater Systems



- Patriot Services Corporation
 - Veteran-owned
 - Prior MDEQ experience with training and exercises



All-Hazards



Natural

- Tornado
- Flood
- Wildfire
- Ice
- Influenza

Technological / Man-Made

- Chemical Spill
- Crime / Terrorism
- Blackout
- Radioactive
- Cyber Hacking

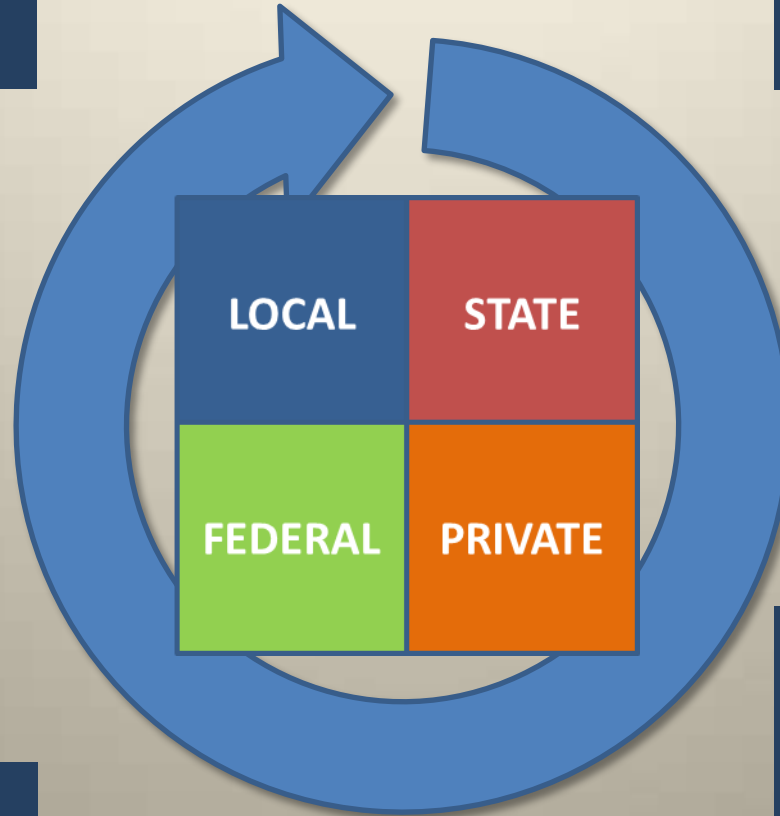
Mitigation

Deflect or minimize negative impact that cannot be prevented

- Deals with aftermath
- Long term needs of victims

Recovery

PREVENTION



Preparedness

Assumes a risk will occur then allocates resources to reduce its impact

- All the steps necessary to make it through an actual emergency
- Surviving first moments
- Caring for victims
- Managing event

Response

Weapons of Mass Destruction



CHEMICAL



BIOLOGICAL



RADIOLOGICAL



NUCLEAR



EXPLOSIVE



CYBER



Emerging Threats / Hazards

- Mother Nature – Super storms, climate change
- Economy – job market, cost of living, priorities, the cost of homeland security
- Infrastructure – old, outdated systems
- New reliance on technology (power grid, water mains, bridges /tunnels /highways)
- Public health emergencies (Influenza Pandemic)
- Civil disturbances, domestic terrorism, extremism

Lessons Learned

- Super Storm Sandy
- Hurricane Katrina
- Tsunami
- 9/11

Tabletop Exercise



Tabletop Exercise

- Informal, discussion based exercise stimulated by a scripted scenario
- No response time pressures, low stress, promotes the free and open exchange of ideas
- Familiarizes players with roles, functions, plans, and procedures
- Goal is constructive discussion
- No fault event...*this is not a test!*

Exercise Rules

- Participate! This is your event
- There are no hidden agendas or trick questions
- Today's decisions will not set precedents
- Don't fight the scenario, work with info provided
- Begin to develop solutions

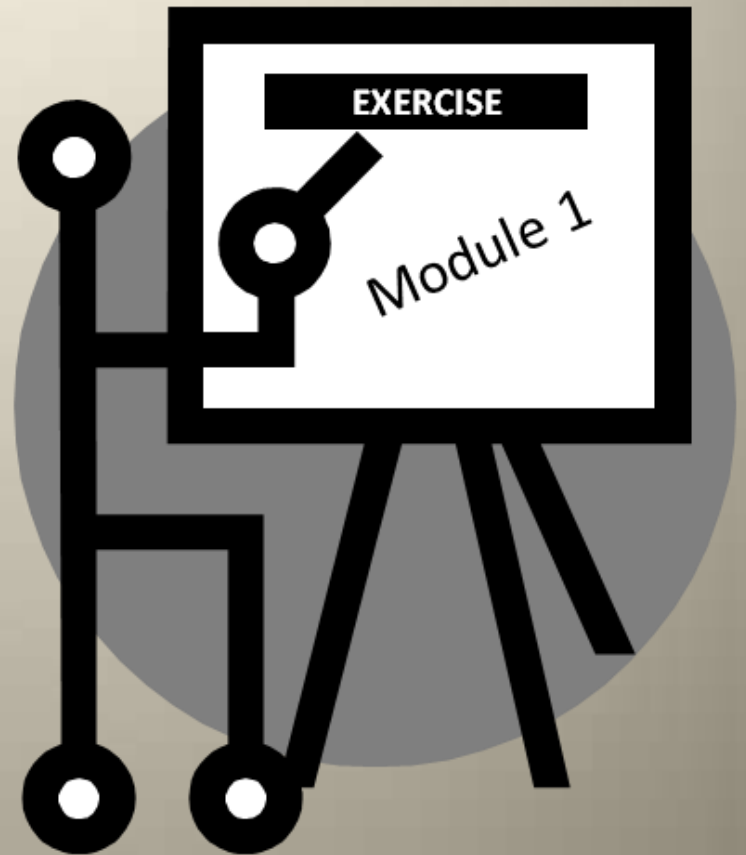
Assumptions & Artificialities

- Certain scenario aspects are idealized and may seem artificial; however, the scenario is plausible, and events occur as they are presented
- The data presented in the scenario may not meet the quality and completeness of real-world expectations



Exercise Delivery

- Scenario information
- Discussion topics
- Hotwash
- Exercise feedback



Exercise Objectives

Discuss decision making in the absence of critical information.

Discuss emergency response procedures and protocols.

Discuss the integration of water/wastewater system personnel into the incident command structure.

Discuss concerns associated with responder safety and health.

Exercise Objectives (cont'd)

Discuss emergency public information and warning protocols.

Discuss the recovery and remediation of a contaminated or damaged water/wastewater system.

Discuss environmental impacts of a contaminated or damaged water/wastewater system.

Discuss the physical and financial impacts of a contaminated or damaged water/wastewater system.

Discussion Topics: Module 1

1. Discuss **initial response actions** and agency notifications.
2. Based on the initial information, discuss **water testing options**, what you are testing for, and safety procedures.
3. Discuss the **immediate impact** on your operations.
4. Discuss the **integration of water and wastewater system personnel** into the first responder incident command structure.
5. Discuss the **potential emergency notifications** you will make to the community at this time and how you will make them.

Discussion Topics: Module 2

1. Discuss strategies to provide information to the media and **mitigate public anxiety and fear**.
2. Discuss the potential **long-term effects** on the community.
3. Discuss **recovery and remediation efforts** to return the system to normal.
4. Discuss the potential **environmental impacts** from this incident and mitigation efforts.
5. Discuss the **financial impacts** associated with an incident such as the one presented.

Hotwash / Feedback

- Hotwash
 - Strengths
 - Areas for improvement
- Feedback Form
 - 5 = Strongly Agree
 - 1 = Strongly Disagree



- **COMMENTS
FROM THE FIELD**

Not realistic...can't
contaminate the whole
system

Arterial flow – drinking
water system

Venous flow – sanitary
sewers

- Regaining public confidence once outage occurs needs to be addressed

- How all dept's came together with ideas and help for everyone

- It was last minute as far as being informed...NOT the DEQ's fault

- Improvement: updated technology and equipment replacement

- Made more outlandish possibilities seem plausible

- Disliked how long it takes to find out something is in the water...and, what is in the water

- Want more exposure to the emergency response team

- Understanding our vulnerabilities is an important first step

- I don't have much confidence in being able to prevent an event like this

- Need to keep in mind the bigger picture and reach out to agencies for info and assistance

- Interconnects...where are they...do we need more ?

- If in doubt, shout

- Should have SME's
present...subject matter
experts

- Continue scenarios and TTX's in the future

- Liked the emphasis on protecting the water infrastructure

- Mitigate problem areas

- Need quicker detection and communication

- Make all dept's aware of water's vulnerability

- A lot of knowledge in the room

- Put water personnel on haz mat team

- Need improved water quality monitoring

- It was a very real world scenario

- Almost no upper management attended...attendees did not have decision making authority

- Increase distribution system real-time water quality monitoring

- Increase chain of command training

- Need SOP for incident response

- Need additional training and synergy w/ other organizations

- Management should have been invited to the TTX

- Knowledge is power...more exposure and awareness is needed

- Top management
needed at TTX

- chlorine monitors have capacity to alarm which is helpful

- redundancy in system to mitigates problems

- Add chlorine monitoring at fire stations and schools

- Not enough staff to handle a large scale event

- Liked the back and forth discussion thinking through mitigation efforts

- Need more infection control exercises

- City needs an active EM
cte with representatives
from the private sector

- There was a lack of visual aides

- Need to put water into the city's EOC

- Need more interdepartmental meetings identifying resources and procedures

- I liked the open discussion concept

- Phone #'s and emails would be useful of the contact people

- Need attention to the water department facilities

- Improved understanding of water infrastructure

- Need public outreach with the private sector

- Need to know that haz mat is available to them (water dept)

- Good build for a functional exercise

- Need inventory and contingency plan for loss of water

- Need to test the emergency water identified during the TTX

- Improve the process of pumping station alarm notification

- Liked the interaction of the department groups

- Not specific message
developed for the public

- Introduce MICAMS to water agencies

- Water department's understanding how important public information is during an incident such as this

- In an event such as this,
it will be difficult to
convey a consistent
unified message

- Comms w/ radios, ie, 800 mhrz if cells are down
- Upgrade plan to include the use of radios

- Liked the resources the various agencies have for us

- Need to ID off site possible EOC's throughout the city

- You can't stop everything

- How do you stay in operation to help the system and the people?

- We need more information about how the county will help us

- Need a good location for people to come to for help and supplies

- Need to think more locally if other resources are not available...what we can for ourselves...more independent

- Educate police, fire and DPW on what to watch for

- Conduct in-field exercise

- Need to train the staff that are in the field all day

- Need to do this annually
(TTX)

- Ensure the DPW personnel understand that they are not the PIO

—Make sure PDW is
part of the EOC

- Bringing decision makers and resource providers together

- Process for trouble shooting needed

- Thought provoking

- Spurred good conversation

- Need more understanding of the EOC

- Different than the usual bomb TTX

- Water dept personnel
being able to use PPE
gear

»Declare
emergency
early...PA 390
reimbursement

- More involvement with the communities we service at the preplanning stage

- Focus on threat to the sanitary (sewer) system

- Understand and train on the use of PA 390

- Missed lunch

- An awakening for what could become a reality

- PPE updated

- Plan for ways to deal with the residents in a crisis situation

- Incident command needs to be a part of training

—Few employees
have been fit tested
for the
respirators...or
trained on them

- Need better info on chemicals used by industries here

- What would hospital do if the water system went off?

- Liked the discussion with people not of my expertise

- Can be
uncomfortable...the TTX

- There is a need for the water and wastewater personnel to be a part of EM

- Liked the question that we don't talk about day to day

- Loss of personnel is limiting

- City has mutual aid agreements for emergency services with neighboring cities/gov'ts

- Liked being trained on the city's water system

- Have a better understanding of the interdepartmental structure for responding to emergencies

- Need to incorporate the mayor and city council on these issues

- I would like to see more 800 mhz radios for city depts.

- I'm more confident in their knowledge in the PD and the water dept personnel

- Need cyber security scenarios

- Elected officials need to be involved

- Much food for thought

- Although informal, not much interaction among participants

- Add monitoring to our water supplies

- Need mapping of resources – not just water but gas as well

- From a school district standpoint, I will take this information back and be able to share / apply this with school personnel

- Liked the integration of police, fire and DPW on the same scenario at the same time

- Need contract with water bottler for emergency water

- Generators needed for emergency

- Ensure relationships with private and public sectors to provide needed resources

- Need outside source of fuel

- Evacuation problems

- Need porta potties in event of power outage/water outage

- Need to confirm back up water supply

- Lower level personnel training needed

- System survey of hazardous materials

- Good to put faces with names and organizations

- Map out all connections to other jurisdictions and how to isolate system and hold training w/ staff on how to isolate system

- Round table discussion
at end was tedious

- Review, train on, and update ERP

- A breakout with stakeholders from specific groups would be beneficial

- Having a response protocol for specific scenarios would be beneficial

- Need to increase the knowledge of the water and sewer system across all city departments

- Liked interaction with agencies that don't normally deal with emergencies

- Make participant list available for all for contact info

–Develop better
SOP's for improved
EM

- Keep helping water systems perform TTX's

- Much of the conversation was beyond the scope of law enforcement

- Need better
comms
between
departments

- Need to continue the shift to 'all hazards'

- Not enough
time...wanted more
sharing

- Need to communicate better with wastewater

- Need additional canned messages to deal with public panic

- Add social media communications

- Seemed like a lot of arguing

- Educate our leaders on how to handle a water system contamination...engagement of superiors

- Educate the decision makers on how the system works

- We need to discuss the consequences of dewatering the system and what needs to be done to bring the system back on line

- Develop guide for response

- It really exposed gaps in our response activities

- Code red notification...does it capture non-registered citizens?

- Unique scenario...not one we've thought of before

- Would need a lot of chemical to contaminate a water system

- Make a decision tree tool for common scenarios so that we don't struggle making a decision during a real event

- Our plan doesn't deal with system recovery

- Need a process for educating senior officials and elected officials

- Getting all the agencies together was good

- Need to consolidate all of the information as a part of revising the plan (ERP)

- Need to put all jurisdictions into one ERP

- Didn't like the room
because it was crowded

- If in doubt, shout

- Nixel...local emergency
comms

- Declare the emergency...early...no jeopardy...late declaration has jeopardy

- Social media
- twitter/facebook

- Schools...lock down until you have enough information to know kids are protected

- Chlorine residual is great indicator

- Psi is a great tool

- Abandoned buildings
and houses...shut off
water

- We (police and fire)
support the DPS/DPW

- Elected officials...need to be at TTX

- Velocities are great...info, time, response

- The Water Sector strength is that it always works

- The weakness of the Water Sector is that it always works

- Porta potties at the EOC

—MRE's at the EOC

- Bunks at the EOC

- Glad it wasn't just read from the slides

- Need more specific situations

- Succession needs to be specified in the law

- Need more training

- We're all wearing too many hats to do a good job

- I'd be out in the field fixing things and not back at the EOC

- Good local partners with mutual aid

- Cross training with city departments would help

- Downsizing has decreased capabilities

»Need VA/ERP on
the sanitary
system

- We'd be dirty without drinking water

- We'd be a 3rd world country without drinking water

- We need a contract with a water bottler

- It doesn't matter what shirt we have on...we all support each other

- Ego and media drive use of PPE...don't mess up hair

- Need alternate EOC's

- Need SCADA to ID problems real time

Didn't know it (TTX) was
going to happen

Continuous real-time
water quality
monitoring is suggested

Natural gas generators
being considered to
replace diesel fuel
generators

- QUESTIONS?